

Appl. No. : 09/844,155
Filed : April 27, 2001

2. (Amended) The copper alloy as claimed in claim 1, which is the copper alloy consisting essentially of 0.05 to 0.5 wt% of Zn and 0.05 to 0.5 wt% of Mg, with the balance being made of unavoidable impurities and Cu.

3. (Amended) The copper alloy as claimed in claim 1, which is the copper alloy consisting essentially of 0.1 to 1.0 wt% of Sn, with the balance being made of unavoidable impurities and Cu.

4. (Amended) The copper alloy as claimed in claim 1, which is the copper alloy consisting essentially of 0.1 to 1.0 wt% of Sn and 0.1 to 0.6 wt% of Ag, with the balance being made of unavoidable impurities and Cu.

REMARKS

With this amendment, Claim 7 is cancelled and Claims 1-4 are amended. Claims 1-4 are thus presented for further Examination.

The specific changes to the specification and the amended claims are shown on a separate set of pages attached hereto and entitled VERSION WITH MARKINGS TO SHOW CHANGES MADE, which follows the signature page of this Amendment. On this set of pages, the insertions are underlined while the ~~deletions are stricken through~~.

Rejections Under 35 U.S.C. § 102 and 103

The Examiner has rejected Claims 1-4 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) as unpatentable over JP '291. The Examiner has rejected Claims 1 and 3 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,439,247 to Arita. The Examiner has rejected Claims 1-2 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) as unpatentable over JP '325.

As suggested by the examiner, Applicants have amended Claims 1-4 from "containing" to "consisting essentially of", such that the language is no longer inclusive. Applicants submit that the phrase "consisting essentially of" excludes the unrecited ingredients as previously discussed in our Office Action Response dated May 20, 2002. Since the alloys as presently claimed include this phrase, alloys including other elements are excluded from the scope of the claims. Accordingly, the cited art does not teach the alloys without other elements as set forth in

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the claims, and the prior art provides no suggestion that a Cu alloy with desirable properties can be made without the addition of the other elements.

Accordingly, Applicant maintains Claim 1 is patentable over JP '291, Arita and JP '325. As Claims 2-4 are dependent on independent Claim 1, Claims 2-4 are patentable for at least these reasons.

CONCLUSION

The applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims pursuant to statutory sections 102, 103 and/or 112, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

Any claim amendments which are not specifically discussed in the above remarks are not made for patentability purposes, do not narrow the claims, and it is believed that the claims would satisfy the statutory requirements for patentability without the entry of such amendments. Rather, these amendments have only been made to increase claim readability, to improve grammar, and to reduce the time and effort required of those in the art to clearly understand the scope of the claim language.

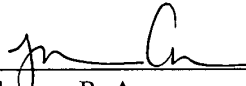
If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 11 / 6 / 02

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VERSION WITH MARKINGS TO SHOW CHANGES

IN THE CLAIMS:

Claims 1-4 have been amended as follows:

1. (Amended) A copper alloy suitable for an IC lead pin for a pin grid array provided on a plastic substrate, wherein the copper alloy is selected from the group consisting of:

a copper alloy ~~containing~~ consisting essentially of 0.05 to 0.5 wt% of Zn and 0.05 to 0.5 wt% of Mg, with the balance being made of unavoidable impurities and Cu;

a copper alloy ~~containing~~ consisting essentially of 0.1 to 1.0 wt% of Sn, with the balance being made of unavoidable impurities and Cu; and

a copper alloy ~~containing~~ consisting essentially of 0.1 to 1.0 wt% of Sn and 0.1 to 0.6 wt% of Ag, with the balance being made of unavoidable impurities and Cu;

wherein the copper alloy has conductivity of 50% IACS or more, and tensile stress of 400 MPa or more but 650 MPa or less.

2. (Amended) The copper alloy as claimed in claim 1, which is the copper alloy ~~containing~~ consisting essentially of 0.05 to 0.5 wt% of Zn and 0.05 to 0.5 wt% of Mg, with the balance being made of unavoidable impurities and Cu.

3. (Amended) The copper alloy as claimed in claim 1, which is the copper alloy ~~containing~~ consisting essentially of 0.1 to 1.0 wt% of Sn, with the balance being made of unavoidable impurities and Cu.

4. (Amended) The copper alloy as claimed in claim 1, which is the copper alloy ~~containing~~ consisting essentially of 0.1 to 1.0 wt% of Sn and 0.1 to 0.6 wt% of Ag, with the balance being made of unavoidable impurities and Cu.